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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

**Globalstar**

3200 Zanker Road
P.O. Box 640670
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April 17, 1996

Mr. William F. Caton, Acting Secretary
Federal Communications Commission
1919 M Street, N.W. - Room 222
Mail Stop 1170
Washington, D.C. 20554

DOCKET FILE COPY ORIGINAL

Re: Petitions for Rulemaking of WINForum (RM-8648) and Apple Computer, Inc. (RM-8653)

Dear Mr. Caton:

L/Q Licensee, Inc. ("LQL"), licensee of the Globalstar™ non-geostationary mobile satellite system ("NGSO MSS"), again urges the Commission not to include the 5150-5250 MHz band as part of any allocation for unlicensed "very high data rate local systems" and "relatively longer range, so-called 'community network' products," as requested in the referenced petitions. As LQL has previously explained in comments on Apple's and WINForum's petitions, and reiterated in its March 11, 1996, letter to the Commission, the unlicensed use of transmitters in the 5150-5250 MHz band, unless properly restricted, could pose a threat of harmful interference to MSS feeder links, and such unlicensed operation may be incompatible with the worldwide allocation for feeder links adopted at WRC-95.

As the Commission is aware, these 100 MHz are part of the 5091-5250 MHz allocation which the United States and the mobile satellite service community sought, and obtained, for non-geostationary MSS feeder links at WRC-95 in a substantial achievement for U.S. leadership in the new low-earth orbiting satellite telecommunications industry. Globalstar now has an application pending for assignment of these WRC-95 feeder links to its system, which is under construction and will be placed in service in 1998.

Apple and WINForum suggested in their petitions for rulemaking that their proposals were similar to, and would complement, the European HIPERLANs (HIgh PErformance Radio Local Area Networks). As described in the attached CEPT European Radio Committee draft decision, HIPERLANs are "radio based local area networking (RLAN) solutions, intended for connectivity between, PCs, laptops, workstations, servers, printers and other networking equipment." HIPERLANs are also described as sub-systems "intended for integration with computer systems [to provide] high-speed, short distance radio links between computer systems ... [t]ypically ... for local, in-house, and on-premises networking." Thus, the European concept is clearly focused on low-power indoor use, in contrast to the Apple and WINForum proposals which embrace a wide range of indoor and outdoor operating environments. In fact, Apple's proposal bears no resemblance whatsoever to HIPERLANs. WINForum's proposal, while closer to the HIPERLAN concept, would not embody the features and operational parameters that would help prevent interference to NGSO MSS operators.

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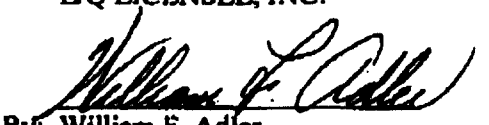
In order to permit NGSO MSS systems such as Globalstar to fulfill their potential role in the global information infrastructure, enabling low-cost communications in every part of the world, the Commission should (1) decline to allocate the 5150-5250 MHz band for unlicensed uses, or (2) adopt technical requirements for this 100 MHz similar, if not identical, to those of HIPERLANs, including a limitation to indoor use. With respect to point (1), it should be noted that the 150 MHz of spectrum in the 5725-5875 MHz band included in Apple's request is the same amount of total spectrum allocated by the Europeans for HIPERLANs at 5 GHz. Hence, any perceived need for spectrum at 5 GHz may be met without utilizing the 5150-5250 MHz band.

Respectfully submitted,

L/Q LICENSEE, INC.



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Attachment (4 pages)

# Information from the ERO concerning the public consultation procedure for Draft CEPT ERC Decision CEPT/ERC/DEC(96)03

The draft ERC Decision on the harmonised frequency band to be designated for the introduction of High Performance Radio Local Area Networks (HIPERLANs) was provisionally adopted by the European Radiocommunications Committee (ERC) of the CEPT in March 1996 and is now subject to public consultation with a view to final approval of the Decision in June 1996.

The European Telecommunications Standard ETS 300 652 shown in Decides 1 in square brackets is so marked because it has not yet fully completed the ETSI approval procedures.

Comments are therefore invited on the text of the draft Decision which should be forwarded to the European Radiocommunications Office (ERO) by **22 May 1996** and marked for the attention of Jim Connolly.

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**EUROPEAN RADIOCOMMUNICATIONS COMMITTEE**

DRAFT

ERC Decision

of 7 March 1996

on the harmonised frequency band

to be designated for the introduction of

High Performance Radio Local Area Networks

(HIPERLANs)

(ERC/DEC/(96)03)

CONFERENCE OF EUROPEAN POSTAL AND TELECOMMUNICATIONS ADMINISTRATIONS



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## EXPLANATORY MEMORANDUM

### 1. INTRODUCTION

HIPERLANs (HIgh PErformance Radio Local Area Networks) are radio based local area networking (RLAN) solutions, intended for connectivity between PCs, laptops, workstations, servers, printers and other networking equipment. HIPERLANs thus enable the replacement of physical cables for the connection of data networks within a building, providing a more flexible and, possibly, a more economic approach to the installation, reconfiguration and use of such networks within the business and industrial environments.

Existing RLANs and other wide band data transmission systems are already operating in the ISM frequency bands. In order to ensure high reliability and high data transfer rates HIPERLANs, however, require a predictable sharing environment. The ISM bands are, therefore, not suitable to meet the requirement of HIPERLANs and other frequency bands have been identified for these kind of services.

## 2. BACKGROUND

In 1990 the European Radiocommunications Committee (ERC) published the CEPT Recommendation T/R 22-03 E, in which the frequency range 59 to 62 GHz is designated for RLANs (referred to as Cordless Local Area Networks) enabling high data transfer rates in a small coverage area. Soon after in 1991, followed ERC Report No 1 on the harmonisation of frequency bands for RLANs and subsequently CEPT Recommendation T/R 10-01 E relating to Wide Band Data Transmission systems using spread-spectrum technology in the 2.5 GHz band.

T/R 10-01 recognises the need to identify suitable radio spectrum to meet the requirements of a future European Telecommunications Standard (ETS) for HIPERLANs.

After consultation with the European Telecommunications Standards Institute (ETSI), it was established that HIPERLANs required a predictable sharing environment and a band of at least 150 MHz, estimated from the instantaneous data rate of 20 Mbits/s per terminal and an average of 1000 Mbits/s/floor/hectare. A requirement for two different frequency bands was foreseen, one offering good frequency re-use within buildings and the other offering good in-building penetration.

In co-operation with ETSI and after further analysis and spectrum engineering studies, suitable spectrum was identified in the 5 GHz and the 17 GHz frequency ranges. Based on this the ERC approved CEPT Recommendation T/R 22-06 in 1992. The Recommendation was revised in the beginning of 1994, based on a request from ETSI. The restriction with regard to integral antennas was removed, thus allowing both integral and external antennas to be used.

The Detailed Spectrum Investigation Phase I (DSI I) completed in 1994, identified HIPERLANs as the major utilisation in the 5150-5250 MHz band and in the 5250-5300 MHz band on a national basis..

In the middle of 1995 the ERO commenced a study on wireless LANs. A final ERO Report is expected in the beginning of 1996. The Report is expected to confirm a need for this ERC Decision.

The ETSI standard 300 652 for HIPERLANs in the 5 GHz band is expected to be completed during 1996. Work on an ETSI standard for HIPERLAN in the 17 GHz frequency range has not yet been initiated.

## 3. REQUIREMENT FOR AN ERC DECISION

The allocation or designation of a frequency band for its use by a service or a system under specified conditions in CEPT member countries is laid down by law, regulation or administrative action. The ERC recognises that for HIPERLANs to be introduced successfully throughout Europe, manufacturers and operators must be encouraged to make the necessary investments in this pan-European radiocommunication system and service. The ERC, therefore, believes it will be necessary to designate a frequency band for HIPERLANs under specified conditions. A commitment by CEPT member countries to implement an ERC Decision will depend on a clear indication that the required frequency band will be made available on time and on a European-wide basis.

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**DRAFT**

**ERC DECISION**

**of 7 March 1996**

**on the harmonised frequency band to be designated for the introduction of**

**High Performance Radio Local Area Networks (HIPERLANs)**

## (ERC/DEC/(96)03)

The European Conference of Postal and Telecommunications Administrations,

*considering:*

a) that the use of stationary as well as portable computer equipment, computer terminals and peripheral equipment by the business and industrial community is rapidly increasing;

b) that there is an increasing requirement to exchange information between such equipment through Local Area Networks (LANs);

c) that existing LANs consist of equipment interconnected by cable resulting in a rigid hardware structure;

d) that LANs using radio (RLANs) enable a more flexible approach to the installation, reconfiguration and use of such networks, thus minimising the costs of cable and rewiring required to handle changes to and up-dates of the network;

e) that there is a need to provide harmonised spectrum which enables the rapid deployment of High Performance RLANs;

f) that ETSI is developing a standard for High Performance Radio Local Area Networks (HIPERLANs), (ETS 300 652).

g) that the frequency band 5000-5250 MHz is allocated to the Aeronautical Radionavigation Service to be used for the Microwave Landing System (MLS) but there are no plans for use of the frequency band 5150-5250 MHz by the aeronautical community;

h) that compatibility studies and spectrum investigations have shown that sharing between HIPERLANs, radionavigation and radiolocation systems operating in the 5 GHz frequency range will be possible under certain conditions;

i) that with effect from 1 January 1997 WRC-95 allocated the frequency band 5150-5250 MHz to the Fixed Satellite Service (Earth-to-Space) for Mobile-Satellite feeder links, on a co-primary basis with Aeronautical Radionavigation. The band 5091-5150 MHz was similarly allocated on a temporary basis until 2010, subject to conditions designed to protect the International Standard Microwave Landing System which has precedence in the band 5000-5150 MHz;

j) that compatibility studies and spectrum investigations have shown that sharing between HIPERLANs and MSS feeder links in the 5 GHz frequency range will be possible under certain conditions.

k) that the band 5250-5300 MHz for the expansion of HIPERLANs may be designated on a national basis, according to market demands.

DECIDES

1. that for the purpose of this Decision High Performance Radio Local Area Networks (HIPERLANs) shall mean equipment complying with the European Telecommunications Standard, [ETS 300 652], on HIPERLANs;

2. to designate the frequency band 5150-5250 MHz for HIPERLANs, to take effect by 1 July 1996;

3. that CEPT Member Administrations shall communicate the national measures implementing this Decision to the ERC Chairman and the ERO when the Decision is nationally implemented.

**European Radiocommunications Committee Decision**

**CEPT ERC/DEC/(96)03**

**On the harmonised frequency band to be designated for the introduction of High Performance Radio Local Area Networks (HIPERLANs)**

As of 1 October 1996 the following CEPT Members have committed themselves to apply the terms of this Decision: